

Claims:

1. A method of oxidizing an organic compound said method comprising contacting the organic compound with a composition comprising a water soluble peroxygen compound, a source of divalent or trivalent transition metal ions, and a chelating agent for said metal ions.
2. A method as in claim 1, wherein the organic compound is present in soil, groundwater, process water or wastewater.
3. A method as in claim 1, wherein the organic compound is selected from the group consisting of volatile organic compounds, semi-volatile organic compounds, polyaromatic hydrocarbons, polychlorobiphenyls, pesticides and herbicides.
4. The method as in claim 1, wherein the peroxygen compound is a dipersulfate.
5. The method as in claim 4, wherein the dipersulfate is selected from sodium, potassium or ammonium persulfate or a combination thereof.
6. The method as in claim 1, wherein the peroxygen compound is a monopersulfate.
7. The method as in claim 6, wherein the monopersulfate is selected from sodium and potassium monopersulfate.
8. The method as in claim 1, wherein the peroxygen compound is a combination of a dipersulfate and monopersulfate.

9. The method as in claim 1, wherein the transition metal is iron.
10. The method as in claim 9, wherein the iron is divalent.
11. The method as in claim 9, wherein the iron is trivalent.
12. The method as in claim 1, wherein the chelating agent is ethylenediaminetetraacetic acid.
13. The method as in claim 1, wherein the amount of chelating agent is equal to at least the stoichiometric amount to chelate all of the transition metal.
14. The method as in claim 1, wherein the amount of chelated transition metal is sufficient to deliver an equivalent amount of transition metal in the range of 1 – 1000 ppm.
15. The method as in claim 1, wherein the amount of peroxygen compound is sufficient to satisfy the soil oxidant demand and to oxidize substantially all of the organic compound.
16. The method as in claim 1, wherein the chelating agent, transition metal and the peroxygen compound are added in combination.
17. The method as in claim 1, wherein the chelating agent, transition metal and the peroxygen compound are added sequentially.